Docket No.: PB0311
Filing Date: February 5, 2004
Inventor(s): S. Kumar, et al.
Title: Terminal-Phosphate-Labeled Nucleotides with New Linkers

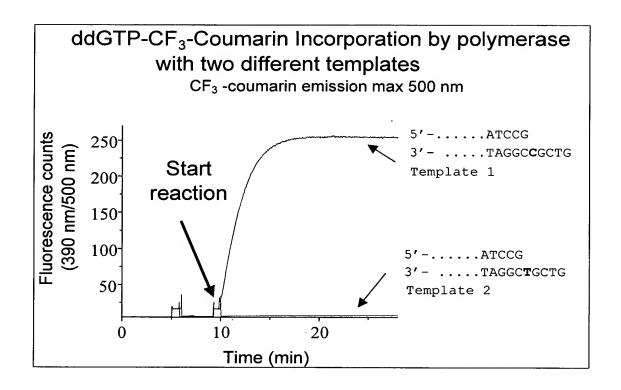


Figure 1

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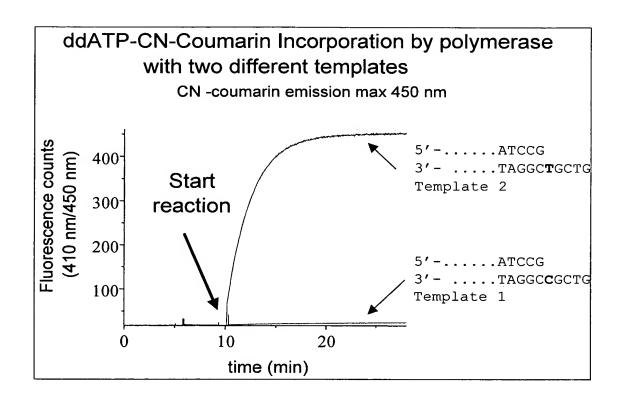


Figure 2

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The Effect of Mg and Mn ions on the incorporation of base labeled nucleotides and phosphate labeled nucleotides

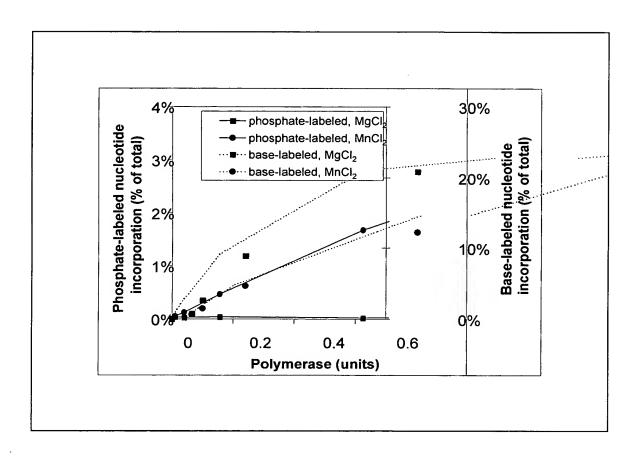


Figure 3

Incorporation rate vs. MnCl₂ concentration, at 5 mM MgCl₂. based on change in slope of REG fluorescence

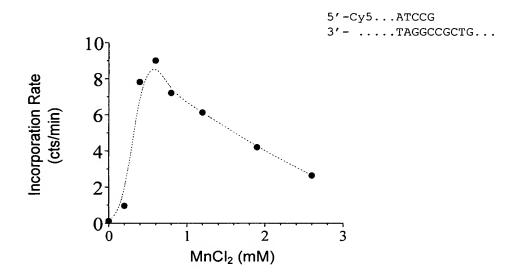


Figure 4

Incorporation rate (initial slope) vs. [MnCl₂]

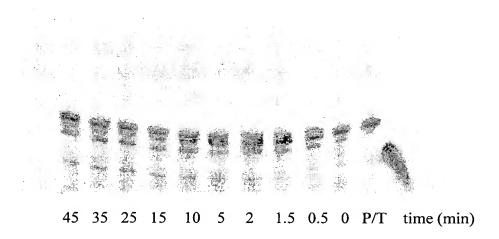
1.2 with correct P/T 0.0 0.0 0.5 1.0 [MnCl₂] in mM [EDTA] = 0.057 mM

Figure 5

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No misincorporation of dCTP-DAH-ROX by Phi 29 exo using Mn⁺⁺

(at saturating dCTP-ROX, $25 \mu M$)



Primer/template

5'-Cy5...ATCCG

3'-TAGGCGACTG...

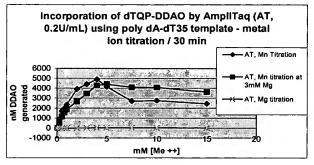
Figure 6

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Incorporation of dT4P-DDAO by different polymerases in the presence of Mn2+, Mg2+ and both Mn2+ and Mg2+



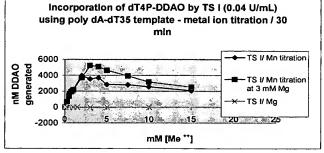
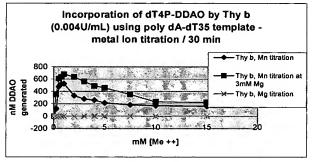


Figure 7A

Figure 7D



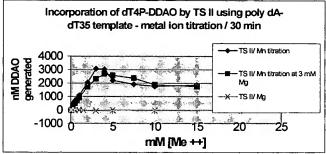


Figure 7B

Figure 7E

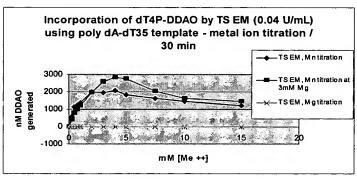


Figure 7C

3'-TAGGCCGCTGTTGGTCTATTCCCAC-5'

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DNA synthesis using four DDAO analogs

1 µM each of dA-DDAO, dG-DDAO, dC-DDAO, dT-DDAO

Primer-template
5'-Cy5...ATCCG

40 mer 20 mer 7

time 0-1 5 10 15 25 40 60 80 (min)

Figure 8

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Analog incorporation by ΔTts depends on linker

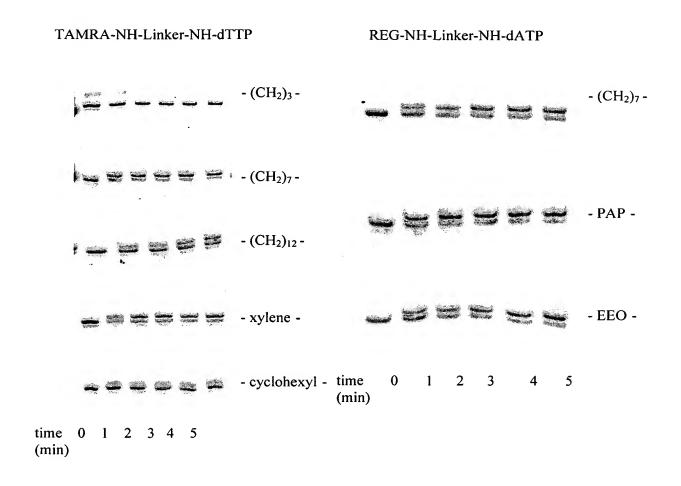


Figure 9